

**Annual Report on Affordability Findings for Compliance with the Missouri Clean Water Law**  
**Calendar Year 2020**  
**Prepared by Missouri Department of Natural Resources**  
**Water Protection Program**

The General Assembly enacted Section 644.145 of the Revised Statutes of Missouri (RSMo) in 2011, to ensure that the Department of Natural Resources considers affordability when incorporating new requirements for discharges into permits for publicly owned sewer systems or water or sewer treatment works, or when enforcing provisions of Chapter 644 RSMo or the Federal Water Pollution Control Act. This report presents affordability findings for Department permits issued or anticipated during calendar year 2020. Whenever the risk of an unaffordable action is high, the Department works with permittees before issuing any final permit to mitigate impacts where possible and avoid creating an unaffordable situation. These mitigation efforts can include temporary variances, revised compliance schedules, and the reevaluation of financing options.

The statutory definition of affordability with respect to payment of a utility bill is: “a measure of whether an individual customer or household with an income equal to or lower than the median household income for their community can pay the bill without undue hardship or unreasonable sacrifice in the essential lifestyle or spending patterns of the individual or household, taking into consideration the criteria described in subsection 4 of this section.” Section 644.145.3(1) RSMo. See Appendix A for the subsection 4 criteria.

**Number of Findings of Affordability**

The Department issued 101 findings of affordability with effective dates in calendar year 2020. In all cases where affordability challenges exist, the Department seeks for ways to reduce economic impacts. The most common approach is allowing adequate time in implementation schedules to mitigate potential adverse impacts resulting from the costs of the improvements. The Department also seeks opportunities for struggling systems to regionalize or consolidate with other utilities, on a voluntary basis. Also, the Department uses compliance assistance to work with communities to avoid enforcement actions that would impose penalties that would cause further affordability challenges.

By using these and other approaches, all 101 findings were categorized as affordable. Water quality criteria generally are adopted from federal recommendations. While EPA does not mandate that the state adopt criteria, EPA can adopt criteria for the state through the federal rulemaking process. In 2004 EPA agreed, as part of a legal settlement, to adopt criteria for bacteria and ammonia, unless the state first adopted the criteria. The Department subsequently adopted criteria to avoid a federal rule. Similarly, in 2005 the Department adopted EPA’s recommended ammonia criteria, in order to avert federal action.

**Findings Resulting in Higher Than Normal Rate Increases Compared to Median Household Income**

Missouri’s affordability statute does not establish a numeric threshold for affordability relative to median household income (MHI), although MHI is commonly regarded as an indicator of potential affordability concerns. Of the 101 actions requiring affordability findings in 2020, 15 actions resulted in projected sewer rates per user greater than 2 percent of MHI. Of those fifteen actions, two were minor, resulting in monthly increases of \$0.20 or less compared to the current sewer rates. The Department determined that the remaining thirteen actions qualified as affordable based on the facts and circumstances detailed below:

- Permit actions for the City of East Prairie Wastewater Treatment Facility (WWTF) require compliance with effluent limitations for Ammonia as well as monitoring requirements for Ammonia, Total Kjeldahl Nitrogen, Nitrate and Nitrite, and Total Phosphorus, which resulted in an estimated \$37.32 increase in the projected monthly sewer rate, or from \$27.50 to \$64.82 (per 5,000 gallons per month). The existing sewer rate was 1.287 percent of the community's MHI. The requirements would increase sewer rates to 3.033 percent of MHI; therefore, the Department included a 20-year schedule of compliance, which will provide the users a longer timeframe to afford treatment plant upgrade costs in order to meet new effluent limits for Ammonia and monitoring requirements for Ammonia, Total Kjeldahl Nitrogen, Nitrate and Nitrite and Total Phosphorus. The Department will review the cost for compliance at the next five-year permit renewal.
- Permit actions for the Boone County Regional Sewer District's eight WWTFs (Brookfield Estates, Cedar Gate, Midway Crossing, Quarter Mile Hills, South Route K, Sunnyslope, Trails West, and Twin Lakes) require compliance with effluent limitations for Ammonia and *E. coli* as well as influent and effluent monitoring requirements for nutrients, *E.coli*, and Ammonia, which resulted in an estimated \$37.07 increase in the projected monthly sewer rate, or from \$65.90 to \$102.97 (per 5,000 gallons per month). The existing sewer rate is 1.634 percent of the community's MHI. The requirements are projected to increase the sewer rates to 2.554 percent of MHI; therefore, the Department established a schedule of compliance, varying between 9–20 years in each permit, to provide users a longer timeframe to mitigate costs associated with upgrades to the treatment plans. The Department will reevaluate costs of compliance at the next permit renewals in 2024 and 2025.
- Enforcement actions for the City of Monroe City require removal of an unpermitted wet weather outfall at the Monroe City WWTF as outlined in an Abatement Order on Consent (AOC), resulting in an estimated \$32.90 increase in the projected monthly sewer rate, or from \$45.00 to \$77.90 (per 5,000 gallons per month). The existing sewer rate is 1.480 percent of the community's MHI. The requirements would increase sewer rates to 2.520 percent of MHI. The AOC states removal of the unpermitted wet weather outfall will be complete by August 1, 2022. Removal of the unpermitted wet weather outfall is one component of a broader WWTF improvement project that the city is conducting. The city received a \$5.3 million loan and a \$4.0 million grant from USDA-RD for the WWTF improvement project, which requires that the city begin construction within a year of funding obligation (by approximately January 2021) and complete the broader project within five years of funding obligation (by approximately January 2025). Due to the USDA-RD funding requirements, the City proposed to the Department an outfall removal date of August 1, 2022, which was incorporated into the AOC.
- Permit actions for the East Butler County Sewer District WWTF require compliance with effluent limitations for *E. coli*, as well as monitoring requirements for Ammonia, Total Kjeldahl Nitrogen, Nitrate and Nitrite, and Total Phosphorus, which resulted in an estimated \$3.01 increase in the projected monthly sewer rate, or from \$75.60 to \$78.61 (per 5,000 gallons per month). The existing sewer rate was already 2.227 percent of the community's MHI. The requirements would increase sewer rates to 2.316 percent of the MHI; therefore, the Department retained the existing 10-year schedule of compliance, which has seven years remaining for the permittee to meet these permit requirements.
- Permit actions for the City of Lancaster include compliance with monitoring requirements for Total Kjeldahl Nitrogen, Nitrate and Nitrite, Ammonia, and Total Phosphorus, which resulted in a

\$5.02 increase in the projected monthly sewer rate, or from \$52.00 to \$57.02 (per 5,000 gallons per month). The requirements would increase sewer rates to 2.194 percent of MHI; therefore, the permittee has received an additional four years for a total of a 14-year schedule of compliance to meet monitoring requirements for Total Kjeldahl Nitrogen, Nitrate and Nitrite, Ammonia, and Total Phosphorus. The Department will review the cost for compliance at the next five-year permit renewal.

- Permit actions for the City of Wyaconda require compliance with effluent limitations for *E. coli*, resulting in a \$4.48 increase in the projected monthly sewer rate, or from \$35.00 to \$39.48 (per 5,000 gallons per month). The requirements would increase sewer rates to 2.120 percent of MHI; therefore, the Department established a 10-year schedule of compliance in the permit and will reevaluate it at the next permit renewal in 2022.

#### **Findings Resulting in Projected Increase of Monthly Sewer Rate per User of 100 percent or Higher**

Of the 101 actions requiring affordability findings in 2020, three municipalities' requirements resulted in a projected 100 percent or higher increase of monthly sewer rate per user. In all three cases, the revised sewer rates for each of the three municipalities is calculated to be less than 2 percent of MHI, with the highest finding resulting in a projected rate of 1.895 percent of MHI. For the purpose of this analysis, the Department assumed that compliance will require a system modification or replacement. Although these permit actions have been determined to be affordable based on the criteria of the statute, the Department will continue to work with each system to identify lower-cost technologies, options for consolidation or regionalization, and opportunities for grants and low-interest loans.

- The City of Bloomfield must meet new effluent limits for Ammonia and *E. coli*, Beryllium, Chloride, Iron, Lead, and Mercury, as well as monitoring requirements for Total Kjeldahl Nitrogen, Nitrate and Nitrite, and Total Phosphorus. The Department estimates the cost to replace the City's system will increase the monthly sewer rate per user by \$36.12, or from \$21.40 to \$57.52, which is a 168.79 percent increase that will raise the projected sewer rate to 1.670 percent of the community's MHI. The Department included a five-year schedule of compliance for design and construction for the treatment of metals and a three-year schedule of compliance for Ammonia and disinfection upgrades.
- The Village of Novelty must meet new effluent limits for Ammonia and *E. coli* as well as monitoring requirements for *E. coli*. The Department estimates the cost for land application to meet new requirements will increase the monthly sewer rates per user by \$29.05, or from \$18.00 to \$47.05, which is a 161.39 percent increase that will raise the projected sewer rate to 1.633 percent of the community's MHI. The Department established an 18-year schedule of compliance for new permit requirements.
- The City of Clarksburg must meet new final effluent limits for Ammonia and *E. coli*. The Department estimates the cost for mechanical treatment to meet new requirements will increase the monthly sewer rates per user by \$26.33 from \$19.50 to \$45.83, which is a 135.03 percent increase that will raise the projected sewer rate to 1.895 percent of the community's MHI. In addition to the current five-year schedule of compliance, the Department extended the schedule of compliance for an additional four years.

### **Average Increase in Sewer Rates**

For the 101 findings, the projected increases in monthly sewer rates in terms of 2020 dollar values ranged from \$0.00 to \$37.32, with an average of a \$7.26 increase. The projected increases in sewer rates by percentage ranged from 0.0 percent to 168.79 percent, with an average of a 20.191 percent increase.

### **Average Increase in Sewer Rates as Percentages of MHI**

For the 101 findings, the projected increases in sewer rates, calculated as percentages of the respective communities' MHI, ranged from 0.000 percent to 1.746 percent, with an average of 0.217 percent. The communities included counties, cities, villages, towns, and census-designated places in which the service users were residing.

### **Regionalization and Consolidation: An Increasing Choice for Pollution Control**

In the Department's ongoing effort to help Missouri citizens thrive by balancing a healthy environment with a healthy economy, one of our primary goals is to promote more efficient, resilient, and sustainable wastewater infrastructure across the State. As small wastewater systems face significant challenges in providing service to their users at a reasonable cost while complying with federal and state regulations, two options are becoming a more favorable option: regionalization and consolidation.

Regionalization refers to sharing physical infrastructure in a defined geographic area when a political or private entity provides wastewater service by physically connecting existing and future communities to a regional or central WWTF. When multiple entities work together, each utility benefits from reduced capital and operational costs, and increased economies of scale.

Consolidation refers to the transfer of ownership and/or operational authority of an independent wastewater system to a larger system. The fundamental advantage of consolidating systems under a central provider is financial — there are simply more customers to share the burden of paying the bills. Another benefit is that small wastewater system owners are able to relinquish the burden of regulatory obligations.

Completed consolidation and regionalization projects in Missouri have already demonstrated the ability to improve services to residents, improve water quality in our rivers, streams, and lakes, and ultimately reduce costs to providers.

### **List of All the Permit Holders Receiving Affordability Findings**

All permit holders for which the Department issued affordability findings in 2020 are provided in Table 1 along with data, including the following items required by Section 644.145.9(4) RSMo:

- a) Current and projected monthly residential sewer rates in dollars;
- b) Projected monthly residential sewer rates as a percentage of median household income; and,
- c) Percentages of households at or below the state poverty rate.

All footnotes within Table 1 are denoted by an asterisk and a number ("\*1" through "\*19") and are presented at the end of Table 1.

**Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2020**

(This table is arranged in descending order of the values for the indicator “projected monthly sewer rate per user as a percentage of monthly MHI of the respective community” as presented in the column with the highlighted heading of “Projected Monthly Sewer Rate Per User: % of Monthly MHI.”)

RSMo 644.145.9 Criteria												
No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User	Average *1	Average *2	Average *3	Federal Mandate 0 Not Affordable 0 Affordable	
								\$7.26	20.191%	0.217%	101	
								Increase of Monthly Sewer Rate Per User				
								\$	%	% of Monthly MHI *7	House- holds At Or Below Poverty *7	
		*9			[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
1	MO-0021750	East Prairie WWTF	UL	\$25,644	1,272	\$27.50	\$64.82	3.033%	\$37.32	135.71%	1.746%	*16
2	MO-0126624	BCRSD Brookfield Estates WWTP	UM	\$48,390	7,165	\$65.90	\$102.97	2.554%	\$37.07	56.25%	0.919%	*16
3	MO-0096415	BCRSD Cedar Gate WWTF	UM	\$48,390	7,165	\$65.90	\$102.97	2.554%	\$37.07	56.25%	0.919%	*16
4	MO-0132705	BCRSD Midway Crossing WWTP	UM	\$48,390	7,165	\$65.90	\$102.97	2.554%	\$37.07	56.25%	0.919%	*16
5	MO-0126446	BCRSD Quarter Mile Hills WWTF	UM	\$48,390	7,165	\$65.90	\$102.97	2.554%	\$37.07	56.25%	0.919%	*16
6	MO-0087173	BCRSD South Route K WWTP	UM	\$48,390	7,165	\$65.90	\$102.97	2.554%	\$37.07	56.25%	0.919%	*16
7	MO-0095354	BCRSD Sunnyslope WWTF	UM	\$48,390	7,165	\$65.90	\$102.97	2.554%	\$37.07	56.25%	0.919%	*16
8	MO-0092002	BCRSD Trails West WWTF	UM	\$48,390	7,165	\$65.90	\$102.97	2.554%	\$37.07	56.25%	0.919%	*16
9	MO-0101885	BCRSD Twin Lakes WWTF	UM	\$48,390	7,165	\$65.90	\$102.97	2.554%	\$37.07	56.25%	0.919%	*16

**Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2020 (Cont.)**

No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User				House- holds At Or Below Poverty *7	Affordability *8
							\$	\$	% of Monthly MHI *7	\$	%	% of Monthly MHI *7		
	*9			[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]			
10	MO-0055379	Monroe City WWTP	UD	\$36,495	1,184	\$45.00	\$77.90	2.520%	\$32.90	73.11%	1.082%	*16 *11	16.3%	See Page 2 of the report
11	MO-0127159	East Butler County Sewer District WWTP	UD	\$40,737	466	\$75.60	\$78.61	2.316%	\$3.01	3.98%	0.089%	*16	21.6%	See Page 2 of the report
12	MO-0039691	Lancaster WWTF	UM	\$31,190	342	\$52.00	\$57.02	2.194%	\$5.02	9.65%	0.193%	*16	26.1%	See Page 2 of the report
13	MO-0025259	Waverly WWTF	S	\$37,456	349	\$68.00	\$68.20	2.185%	\$0.20	0.29%	0.006%	*16	14.4%	See Page 2 of the report
14	MO-0116041	Hollister WWTF	S	\$29,793	1,812	\$52.56	\$52.70	2.123%	\$0.14	0.27%	0.006%	*16	16.3%	See Page 2 of the report
15	MO-0099007	Wyaconda WWTF	UD	\$22,351	123	\$35.00	\$39.48	2.120%	\$4.48	12.80%	0.241%	*16	29.0%	See Page 2 of the report
16	MO-0115894	Hurdlanl WWTF	UL	\$35,469	72	\$35.00	\$59.12	2.000%	\$24.12	68.91%	0.816%		31.8%	Yes
17	MO-0106348	Russellville WWTF	S	\$41,068	320	\$65.35	\$65.47	1.913%	\$0.12	0.18%	0.004%		16.1%	Yes
18	MO-0039748	Trenton Municipal Utilities WWTP	S	\$37,484	2,680	\$56.68	\$59.27	1.897%	\$2.59	4.57%	0.083%		22.5%	Yes
19	MO-0109797	Clarksburg WWTF	UM	\$29,016	119	\$19.50	\$45.83	1.895%	\$26.33	135.03%	1.089%	*18	31.7%	See Page 3 of the report
20	MO-0050610	Mansfield WWTF	S	\$24,365	544	\$38.25	\$38.32	1.887%	\$0.07	0.18%	0.003%		31.1%	Yes
21	MO-0040738	Boonville WWTP	S	\$38,028	3,072	\$58.75	\$58.81	1.856%	\$0.06	0.10%	0.002%		13.8%	Yes
22	MO-0107042	Craig WWTF	UD	\$29,271	50	\$31.50	\$45.17	1.852%	\$13.67	43.40%	0.560%		18.2%	Yes
23	MO-0041173	Memphis Municipal WWTF	UL	\$36,560	925	\$34.40	\$56.18	1.844%	\$21.78	63.31%	0.715%		17.8%	Yes
24	MO-0095109	Niangua WWTP	UD	\$27,695	174	\$36.25	\$40.17	1.741%	\$3.92	10.81%	0.170%		15.6%	Yes
25	MO-0025739	Humansville WWTP	S	\$23,263	400	\$33.45	\$33.56	1.731%	\$0.11	0.33%	0.006%	*11	41.6%	Yes

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No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User				House- holds At Or Below Poverty *7	Affordability *8
							\$	\$	% of Monthly MHI *7	\$	%	% of Monthly MHI *7		
		*9			[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]		
26	MO-0130427	LCPWSD #3, Hickory Hills WWTP	S	\$35,715	308	\$49.91	\$50.03	1.681%	\$0.12	0.24%	0.004%		24.5%	Yes
27	MO-0089443	Peculiar WWTP	UM	\$53,242	2,155	\$69.40	\$74.47	1.678%	\$5.07	7.31%	0.114%	*11	10.8%	Yes
28	MO-0050326	Bloomfield WWTF	UM	\$41,343	886	\$21.40	\$57.52	1.670%	\$36.12	168.79%	1.048%	*18	12.4%	See Page 3 of the report
29	MO-0054755	Hopkins WWTF	UL	\$36,176	250	\$45.04	\$50.08	1.661%	\$5.04	11.19%	0.167%		17.3%	Yes
30	MO-0102032	Novelty WWTF	UL	\$34,574	60	\$18.00	\$47.05	1.633%	\$29.05	161.39%	1.008%	*18	20.6%	See Page 3 of the report
31	MO-0133817	Camelot Estates WWTF	S	\$51,729	586	\$68.00	\$68.07	1.579%	\$0.07	0.10%	0.002%		17.5%	Yes
32	MO-0096679	Pineville WWTF	S	\$32,930	370	\$42.60	\$42.71	1.556%	\$0.11	0.26%	0.004%		10.1%	Yes
33	MO-0132519	Washington County PWSD #4 WWTF	S	\$35,605	11	\$45.00	\$45.10	1.520%	\$0.10	0.22%	0.003%		19.8%	Yes
34	MO-0044954	Fayette WWTF	S	\$44,056	1,009	\$55.00	\$55.04	1.499%	\$0.04	0.07%	0.001%		25.3%	Yes
35	MO-0107328	Portage Des Sioux WWTF	S	\$52,502	141	\$63.89	\$64.86	1.482%	\$0.97	1.52%	0.022%		11.8%	Yes
36	MO-0104736	Sullivan WWTF	S	\$35,388	3,448	\$41.96	\$42.01	1.425%	\$0.05	0.12%	0.002%		18.0%	Yes
37	MO-0022381	Mt Vernon WWTF	S	\$32,873	1,824	\$38.72	\$38.90	1.420%	\$0.18	0.465%	0.007%		14.8%	Yes
38	MO-0100676	Eldon WWTP	S	\$29,928	2,250	\$34.52	\$34.62	1.388%	\$0.10	0.29%	0.004%		35.4%	Yes
39	MO-0102288	Willow Springs WWTF	S	\$32,334	905	\$37.01	\$37.10	1.377%	\$0.09	0.24%	0.003%		30.1%	Yes
40	MO-0025801	Anderson WWTP	S	\$41,161	876	\$46.59	\$46.64	1.360%	\$0.05	0.11%	0.001%		27.1%	Yes
41	MO-0100684	LaBelle WWTF	UL	\$33,214	297	\$21.00	\$37.28	1.347%	\$16.28	77.52%	0.588%		17.2%	Yes
42	MO-0040827	Huntsville NE WWTF	UL	\$43,965	836	\$22.05	\$47.10	1.286%	\$25.05	113.61%	0.684%	*11	13.6%	Yes

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							\$	\$	% of Monthly MHI *7	\$	%	% of Monthly MHI *7		
		*9			[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]		
43	MO-0040819	Huntsville NW WWTF	UL	\$43,965	836	\$22.05	\$47.10	1.286%	\$25.05	113.61%	0.684%	*11	13.6%	Yes
44	MO-0129674	Revere WWTF	UL	\$45,331	40	\$80.00	\$48.16	1.275%	\$0.00	0.00%	0.000%	*17	26.1%	Yes
45	MO-0109002	Holt WWTF	UL	\$42,542	233	\$37.00	\$44.74	1.262%	\$7.74	20.92%	0.218%		11.4%	Yes
46	MO-0049492	Alton WWTF	S	\$19,990	362	\$20.13	\$20.24	1.215%	\$0.11	0.55%	0.007%		24.9%	Yes
47	MO-0051144	Perryville Southeast WWTP	S	\$46,244	3,632	\$45.97	\$46.14	1.197%	\$0.17	0.37%	0.004%		11.0%	Yes
48	MO-0106810	Holt Summit WWTF	UD	\$52,224	1,808	\$49.81	\$50.65	1.164%	\$0.84	1.69%	0.019%		10.5%	Yes
49	MO-0055328	Eminence WWTF	S	\$25,341	285	\$24.25	\$24.52	1.161%	\$0.27	1.11%	0.013%		31.0%	Yes
50	MO-0099830	Leasburg WWTF	UM	\$29,559	132	\$28.50	\$28.55	1.159%	\$0.05	0.18%	0.002%		22.4%	Yes
51	MO-0094765	Bourbon WWTP	UD	\$37,832	647	\$30.00	\$35.71	1.133%	\$5.71	19.03%	0.181%		20.9%	Yes
52	MO-0022098	Republic WWTF	S	\$52,173	8,078	\$49.08	\$49.12	1.130%	\$0.04	0.08%	0.001%		15.8%	Yes
53	MO-0023256	Joplin Shoal Creek WWTF	S	\$40,024	21,138	\$37.43	\$37.48	1.124%	\$0.05	0.13%	0.001%		18.5%	Yes
54	MO-0103349	Joplin Turkey Creek WWTF	S	\$40,024	21,138	\$37.43	\$37.48	1.124%	\$0.05	0.13%	0.001%		18.5%	Yes
55	MO-0099287	Gower WWTF	S	\$53,316	598	\$49.68	\$49.75	1.120%	\$0.07	0.14%	0.002%		11.1%	Yes
56	MO-0087114	New Bloomfield WWTP	UD	\$50,741	282	\$41.98	\$46.52	1.100%	\$4.54	10.81%	0.107%		12.0%	Yes
57	MO-0114359	Old Monroe WW Lagoon	UD	\$45,306	124	\$30.00	\$39.34	1.042%	\$9.34	31.13%	0.247%		5.4%	Yes
58	MO-0036218	Wood Heights WWTP	S	\$67,334	184	\$56.25	\$56.55	1.008%	\$0.30	0.53%	0.005%		5.7%	Yes
59	MO-0113034	Forsyth WWTF	S	\$37,085	1,103	\$30.70	\$30.74	0.995%	\$0.04	0.13%	0.001%		20.2%	Yes
60	MO-0108162	Rockaway Beach WWTF	S	\$32,819	432	\$27.00	\$27.09	0.991%	\$0.09	0.33%	0.003%		23.3%	Yes

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							\$	\$	% of Monthly MHI *7	\$	%	% of Monthly MHI *7		
		*9			[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]		
61	MO-0028568	Kennett WW Stabilization Lagoon	S	\$31,730	4,586	\$24.95	\$25.02	0.946%	\$0.07	0.28%	0.003%		29.7%	Yes
62	MO-0051551	Linn WWTF	S	\$46,145	1,054	\$35.26	\$35.32	0.918%	\$0.06	0.17%	0.002%		17.5%	Yes
63	MO-0055131	Mayview WWTF	UD	\$36,851	94	\$20.48	\$28.13	0.916%	\$7.65	37.35%	0.249%		24.9%	Yes
64	MO-0047341	Piedmont WWTP	S	\$32,696	888	\$23.60	\$23.64	0.868%	\$0.04	0.17%	0.001%		29.3%	Yes
65	MO-0041238	Polo WWTF	UD	\$41,233	251	\$25.00	\$29.55	0.860%	\$4.55	18.20%	0.132%		22.2%	Yes
66	MO-0087912	Warrenton WWTP	UD	\$44,149	3,519	\$27.43	\$31.58	0.858%	\$4.15	15.13%	0.113%		21.0%	Yes
67	MO-0043648	Poplar Bluff Municipal WWTP	S	\$33,621	7,454	\$23.75	\$23.81	0.850%	\$0.06	0.25%	0.002%		25.5%	Yes
68	MO-0094846	Jefferson City RWRF	S	\$49,308	20,268	\$34.19	\$34.20	0.832%	\$0.01	0.03%	0.000%		15.6%	Yes
69	MO-0040185	Center Creek WWTP	S	\$49,498	6,255	\$34.27	\$34.33	0.832%	\$0.06	0.18%	0.001%		15.8%	Yes
70	MO-0112534	Goodman WWTF	S	\$45,331	399	\$31.28	\$31.38	0.831%	\$0.10	0.32%	0.003%		19.1%	Yes
71	MO-0089010	Lebanon WWTF	S	\$31,379	6,253	\$21.01	\$21.08	0.806%	\$0.07	0.33%	0.003%		25.6%	Yes
72	MO-0044300	Algoa Regional WWTF	S	\$51,753	20,658	\$34.19	\$34.19	0.793%	\$0.00	0.00%	0.000%		13.5%	Yes
73	MO-0097837	Columbia WWTP	S	\$48,390	49,712	\$29.42	\$29.43	0.730%	\$0.01	0.03%	0.000%		23.6%	Yes
74	MO-0108308	Pleasant Hope WWTF	S	\$37,915	305	\$21.80	\$21.93	0.694%	\$0.13	0.60%	0.004%		13.8%	Yes
75	MO-0023272	California South WWTP	S	\$38,416	1,893	\$21.96	\$22.02	0.688%	\$0.06	0.27%	0.002%		15.1%	Yes
76	MO-0090832	Oregon WWTF	UD	\$44,540	388	\$22.00	\$25.07	0.675%	\$3.07	13.95%	0.083%		12.0%	Yes
77	MO-0099457	Palmyra WWTF	S	\$44,991	1,590	\$25.00	\$25.13	0.670%	\$0.13	0.52%	0.003%		15.7%	Yes
78	MO-0112925	St Robert WWTP	S	\$51,479	2,122	\$27.50	\$27.59	0.643%	\$0.09	0.33%	0.002%		12.0%	Yes

**Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2020 (Cont.)**

No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User				House- holds At Or Below Poverty *7	Affordability *8
							\$	\$	% of Monthly MHI *7	\$	%	% of Monthly MHI *7		
		*9			[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]		
79	MO-0058351	St Charles Missouri River WWTF	S	\$65,651	12,687	\$34.76	\$34.77	0.636%	\$0.01	0.03%	0.000%		9.3%	Yes
80	MO-0028720	O'Fallon WWTP	S	\$86,646	17,846	\$45.58	\$45.60	0.632%	\$0.02	0.04%	0.000%		4.3%	Yes
81	MO-0050601	Fairfax WWTF	S	\$39,696	302	\$20.25	\$20.37	0.616%	\$0.12	0.59%	0.004%		20.2%	Yes
82	MO-0022896	Ellington WWTF	S	\$32,532	377	\$16.00	\$16.10	0.594%	\$0.10	0.63%	0.004%		27.6%	Yes
83	MO-0022853	Jackson WWTP	S	\$59,101	6,598	\$28.45	\$28.59	0.580%	\$0.14	0.49%	0.003%		13.3%	Yes
84	MO-0055204	Smithville WWTF	S	\$80,470	3,650	\$37.25	\$37.30	0.556%	\$0.05	0.13%	0.001%		5.2%	Yes
85	MO-0127370	Kingdom City WWTF	S	\$42,258	94	\$17.60	\$18.68	0.530%	\$1.08	6.14%	0.031%		14.5%	Yes
86	MO-0093599	Wentzville Water Reclamation Center	S	\$83,807	14,196	\$30.49	\$30.54	0.437%	\$0.05	0.16%	0.001%		5.6%	Yes
87	MO-0022918	Orrick WWTF	S	\$62,269	340	\$21.50	\$21.98	0.424%	\$0.48	2.23%	0.009%		12.2%	Yes
88	MO-0120863	Sikeston Business & Technology Park WWTF	S	\$39,861	7,745	\$13.95	\$14.04	0.423%	\$0.09	0.65%	0.003%		22.1%	Yes
89	MO-0035009	Sikeston WWTP	S	\$39,861	7,775	\$13.95	\$14.03	0.422%	\$0.08	0.57%	0.002%		22.1%	Yes
90	MO-0116599	Branson, Cooper Creek WWTF	S	\$41,733	8,477	\$13.95	\$14.00	0.403%	\$0.05	0.36%	0.001%		20.0%	Yes
91	MO-0025241	Branson, Compton Drive WWTF	S	\$41,733	8,477	\$13.95	\$14.00	0.403%	\$0.05	0.36%	0.001%		20.0%	Yes
92	MO-0030970	St Peters Spencer Creek STP	S	\$75,402	19,681	\$18.37	\$18.38	0.293%	\$0.01	0.05%	0.000%		4.2%	Yes
93	MO-0049522	Springfield Southwest WWTP	S	*19	*19	*19	*19	*19	*19	*19	*19	*19	*19	Yes

**Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2020 (Cont.)**

No. *4	Permit No.	Facility Name *5	Pollution Control Option *6	Annual MHI *7	Number of Service Users	Current Monthly Sewer Rate Per User	Projected Monthly Sewer Rate Per User		Increase of Monthly Sewer Rate Per User				House- holds At Or Below Poverty *7	Affordability *8
							\$	\$	% of Monthly MHI *7	\$	%	% of Monthly MHI *7		
		*9			[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]		
94	MO-0103039	Springfield Northwest WWTP	S	*19	*19	*19	*19	*19	*19	*19	*19	*19	*19	Yes
95	MO-0023043	St Joseph Water Protection Facility	S	*19	*19	*19	*19	*19	*19	*19	*19	*19	*19	Yes
96	MO-0099813	Fordland WWTF	UM	*19	*19	*19	*19	*19	*19	*19	*19	*19	*19	Yes
97	MO-0044083	Clemstone Sewer District WWTF	S	\$76,011	*12	*12	*12	*12	*12	*12	*12	*12	7.2%	Yes
98	MO-0094897	CGCRCSD, Bella Vista Subdivision WWTF	S	\$50,764	934	\$53.00	*12	*12	*12	*12	*12	*12	17.7%	Yes
99	MO-0130249	PCSD #1, Northern Heights Estates WWTF	S	\$52,386	273	*12	*12	*12	*12	*12	*12	*12	12.8%	Yes
100	MO-0111716	PCSD #1, Weeks Hollow WWTF	S	\$52,386	4,722	\$61.87	*12	*12	*12	*12	*12	*12	12.8%	Yes
101	MO-0023191	Wright City South WWTF	UM	\$56,058	11,237	\$32.25	*12	*12	*12	*12	*12	*12	24.6%	Yes

**Table 1. Key Data Utilized or Generated in the Affordability Findings Issued During 2020 (Cont.)**

**Notes**

- \*1 Average increase of monthly sewer rate per user = “sum of increase of monthly sewer rate per user” / “92 available data points”
- \*2 Average increase of monthly sewer rate as a % = “sum of increase of monthly sewer rate as a %” / “92 available data points”
- \*3 Average increase of monthly sewer rate as a % of monthly MHI = “sum of increase of monthly sewer rate as a % of monthly MHI” / “92 available data points”
- \*4 This table is arranged in descending order of projected monthly sewer rate per user as a percentage of monthly MHI of the respective community.
- \*5 Abbreviations used in the facility names include the following:  
 BCRSD: Boone County Regional Sewer District  
 CGCRCSD: Cape Girardeau County Reorganized Common Sewer District  
 LCPWSD: Laclede County Public Water Supply District  
 PCSD: Pulaski County Sewer District  
 PWSO: Public Water Supply District  
 RWRF: Regional Water Reclamation Facility  
 STP: Sewer Treatment Plant  
 WW: Wastewater  
 WWTF: Wastewater Treatment Facility  
 WWTP: Wastewater Treatment Plant
- \*6 Abbreviations used in the pollution control options include the following:  
 S: sampling only  
 UC: upgrade (collection system)  
 UD: upgrade (disinfection only)  
 UL: upgrade (land application)  
 UM: upgrade (mechanical plant)  
 RC: regionalization and consolidation
- \*7 MHI: annual median household income
- \*8 Yes: affordable; No: not affordable; Mandate: federal mandate regardless of affordability.
- \*9  $[E]=[D/(A/12)]*100$   
 $[F]=[D]-[C]$   
 $[G]=[F/C]*100$   
 $[H]=[F/(A/12)]*100$
- \*10 Data not available as the permittees did not provide their current user rates, although the Department had made attempts to obtain the information.

**Notes (cont.)**

- \*11 Analyses included in Abatement Order on Consent documents.
- \*12 Not applicable, as different sewer districts use specific rate structures and they are generally considered as sufficient to comply with the permits.
- \*13 Not applicable, as schools, churches, nursing homes, airports, ports, training centers, correctional centers, and other institutional facilities do not finance the upgrade, operation, or maintenance of their wastewater treatment facilities based on residential sewer rates.
- \*14 Not applicable, as federal-owned, state-owned, and local government-owned systems do not finance the upgrade, operation, or maintenance of their wastewater treatment facilities based on residential sewer rates.
- \*15 The projected user rates were lower than the current sewer rates, therefore the current sewer rates were used to assess residential impacts, as it is unlikely the user rates would decrease after upgrading the facilities.
- \*16 Projected monthly user rate as a percentage of the monthly MHI exceeds 2%. An affordability threshold for projected monthly user rate as a percentage of the monthly MHI varies depending on the situation of each individual community. The cost analyses associated with these permits have resulted in findings that the projected monthly user rates will likely be affordable. If additional information is provided in the future that indicate the projected monthly user rates are unaffordable, the Department will modify the analyses and permits accordingly and grant extensions to schedules of compliance to mitigate the impacts on the residents.

*East Prairie WWTF (MO-0021750, No. 1 in Table 1)*

See page 1 for this permit action summary.

*BCRSD Brookfield Estates WWTF (MO-0126624, No. 2 in Table 1)*

See page 2 for this permit action summary.

*BCRSD Cedar Gate WWTF (MO-0096415, No. 3 in Table 1)*

See page 2 for permit action summary.

*BCRSD Midway Crossing WWTP (MO-0132705, No. 4 in Table 1)*

See page 2 for permit action summary.

*BCRSD Quarter Mile Hills WWTF (MO-0126446, No. 5 in Table 1)*

See page 2 for permit action summary.

*BCRSD South Route K WWTP (MO-0087173, No. 6 in Table 1)*

See page 2 for permit action summary.

*BCRSD Sunnyslope WWTF (MO-0095354, No. 7 in Table 1)*

See page 2 for permit action summary.

*BCRSD Trails West WWTF (MO-0092002, No. 8 in Table 1)*

See page 2 for permit action summary.

*BCRSD Twin Lakes WWTF (MO-0101885, No. 9 in Table 1)*

See page 2 for permit action summary.

**Notes (cont.)**

*Monroe City WWTF (MO-0055379, No. 10 in Table 1)*

See page 2 for permit action summary.

*East Butler County Sewer District WWTP (MO-0127159, No. 11 in Table 1)*

See page 2 for permit action summary.

*Lancaster WWTF (MO-0039691, No. 12 in Table 1)*

See page 2 for permit action summary.

*Waverly WWTF (MO-0025259, No. 13 in Table 1)*

See page 2 for permit action summary.

*Hollister WWTF (MO-0116041, No. 14 in Table 1)*

See page 2 for permit action summary.

*Wyaconda WWTF (MO-0099007, No. 15 in Table 1)*

See page 2 for permit action summary.

- \*17 Facilities with a projected decrease in monthly sewer rate per user while the current monthly sewer rate per user exceeds 2% of the community's monthly MHI. Since it is unlikely a monthly sewer rate will decrease, in these cases, the Department is working with permittees to secure grants and low-interest loans wherever possible.

*Revere WWTF (MO-0129674, No. 44 in Table 1)*

Actions in the City of Revere's permit require compliance with effluent limitations for Ammonia and *E.coli*. The city is currently charging \$80.00 per user per month (per 5,000 gallons) which equates to 2.12% of the community's monthly MHI. Following completion of the affordability analysis, land application was determined to be the most practical and affordable option to meet new permit requirements. The affordability findings projected a monthly sewer rate of \$48.16, which would be a \$31.84 decrease. The Department established a 15-year schedule of compliance to assist the City with meeting the new permit requirements.

- \*18 Facilities with a projected 100% or greater increase in monthly sewer rate per user. In all cases, the Department is working with the permittees to secure grants and low-interest loans wherever possible.

*Bloomfield WWTF (MO-0050326, No. 28 in Table 1)*

See page 3 for this permit action summary.

*Novelty WWTF (MO-0102032, No. 30 in Table 1)*

See page 3 for this permit action summary

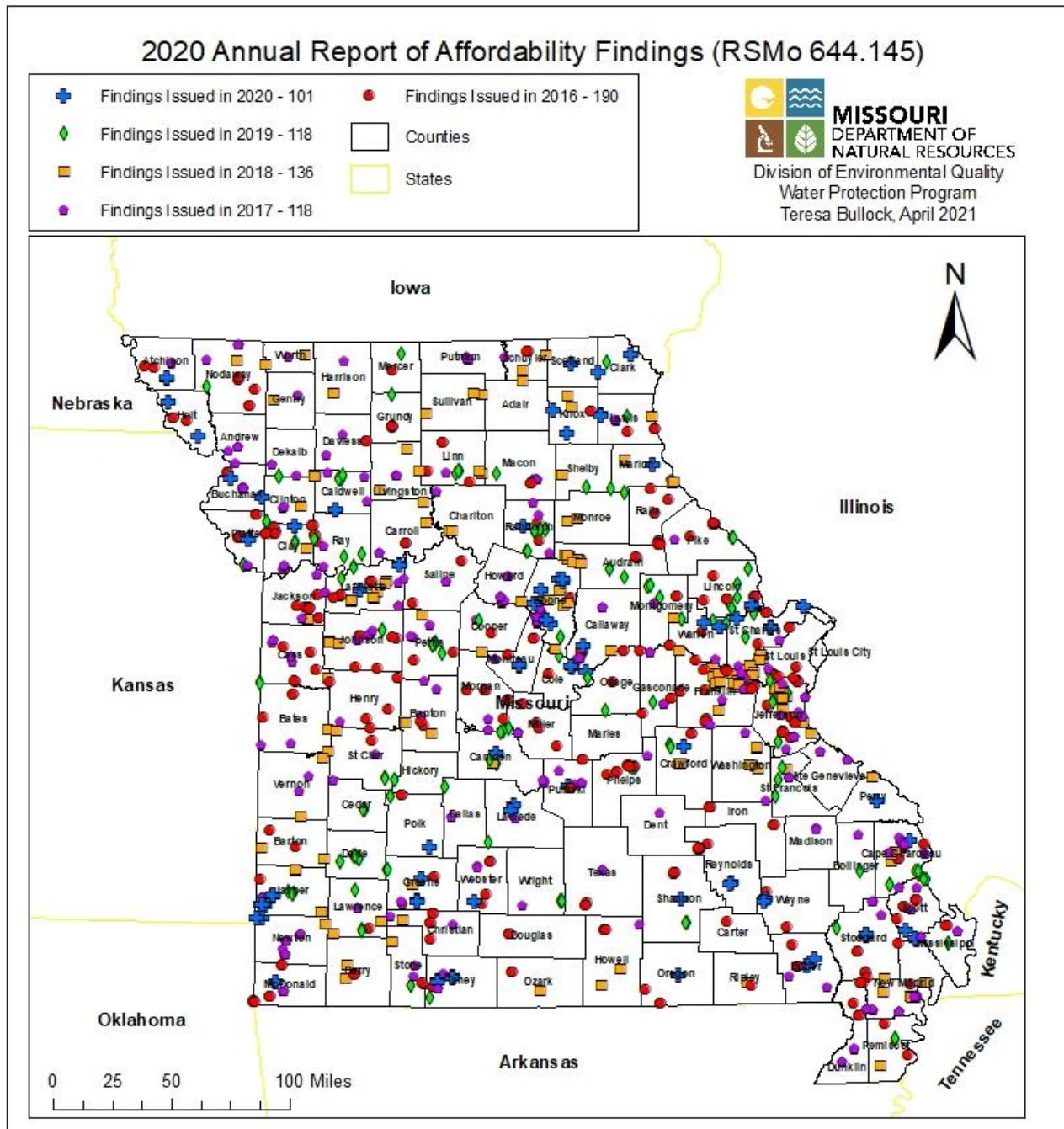
*Clarksburg WWTF (MO-0109797, No. 19 in Table 1)*

See page 3 for this permit action summary.

- \*19 Facilities that waived the affordability analysis requirement.

## 2. Geographical Distribution: 2016-2020

The locations of the wastewater treatment facilities for which the Department conducted affordability findings during calendar years 2016 through 2020 respectively are illustrated in Map 1 below.



Although the data in this data set have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the Department as to the accuracy of this data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the Department in the use of these data or related materials.

**Map 1. Locations of the Wastewater Treatment Facilities with Affordability Findings Issued in 2016 through 2020**

### **3. Conclusion**

Based on the information and data collected, derived, and examined, all the new requirements for discharges incorporated into permits for publicly owned sewer systems or water or sewer treatment works, and all actions enforcing provisions of Chapter 644 RSMo or the Federal Water Pollution Control Act by the Missouri Department of Natural Resources during calendar year 2020 met the affordability criteria.

This report was prepared by the Operating Permits Section of the Water Protection Program, Missouri Department of Natural Resources.

### **Appendix A. Subsections 644.145.4 and 644.145.9 of the Revised Statutes of Missouri**

**Revised Statutes of Missouri  
Chapter 644  
Water Pollution**

**644.145.4.** The department of natural resources shall adopt procedures by which it will make affordability findings that evaluate the affordability of permit requirements and enforcement actions described in subsection 1 of this section, and may begin implementing such procedures prior to promulgating implementing regulations. The commission shall have the authority to promulgate rules to implement this section pursuant to chapters 536 and 644, and shall promulgate such rules as soon as practicable. Affordability findings shall be based upon reasonably verifiable data and shall include an assessment of affordability with respect to persons or entities affected. The department shall offer the permittee an opportunity to review a draft affordability finding, and the permittee may suggest changes and provide additional supporting information, subject to subsection 6 of this section. The finding shall be based upon the following criteria:

- (1) A community's financial capability and ability to raise or secure necessary funding;
- (2) Affordability of pollution control options for the individuals or households at or below the median household income level of the community;
- (3) An evaluation of the overall costs and environmental benefits of the control technologies;
- (4) Inclusion of ongoing costs of operating and maintaining the existing wastewater collection and treatment system, including payments on outstanding debts for wastewater collection and treatment systems when calculating projected rates;
- (5) An inclusion of ways to reduce economic impacts on distressed populations in the community, including but not limited to low- and fixed-income populations. This requirement includes but is not limited to:
  - (a) Allowing adequate time in implementation schedules to mitigate potential adverse impacts on distressed populations resulting from the costs of the improvements and taking into consideration local community economic considerations; and
  - (b) Allowing for reasonable accommodations for regulated entities when inflexible standards and fines would impose a disproportionate financial hardship in light of the environmental benefits to be gained;

- (6) An assessment of other community investments and operating costs relating to environmental improvements and public health protection;
- (7) An assessment of factors set forth in the United States Environmental Protection Agency's guidance, including but not limited to the "Combined Sewer Overflow Guidance for Financial Capability Assessment and Schedule Development" that may ease the cost burdens of implementing wet weather control plans, including but not limited to small system considerations, the attainability of water quality standards, and the development of wet weather standards; and
- (8) An assessment of any other relevant local community economic condition.

**644.145.9.** The department shall file an annual report by the beginning of the fiscal year with the governor, the speaker of the house of representatives, the president pro tempore of the senate, and the chairs of the committees in both houses having primary jurisdiction over natural resource issues showing at least the following information on the findings of affordability completed in the previous calendar year:

- (1) The total number of findings of affordability issued by the department, those categorized as affordable, those categorized as not meeting the definition of affordable, and those implemented as a federal mandate regardless of affordability;
- (2) The average increase in sewer rates both in dollars and percentage for all findings found to be affordable;
- (3) The average increase in sewer rates as a percentage of median house income in the communities for those findings determined to be affordable and a separate calculation of average increases in sewer rates for those found not to meet the definition of affordable;
- (4) A list of all the permit holders receiving findings, and for each permittee the following data taken from the finding of affordability shall be listed:
  - (a) Current and projected monthly residential sewer rates in dollars;
  - (b) Projected monthly residential sewer rates as a percentage of median household income;
  - (c) Percentage of households at or below the state poverty rate.

## **Appendix B. Overall Procedure for Making Affordability Findings**

The Department conducts an affordability finding, or a Cost Analysis for Compliance (CAFCom), as part of the renewal process for a National Pollutant Discharge and Elimination System (NPDES) permit, utilizing the following four primary tools and data sources:

- (1) A Financial Questionnaire with a Community Supplemental Survey sent to permit holders categorized as a Publicly Owned Treatment Works (POTW) for collecting information on the sustainability and financial capability of the community; examples of information requested are the "current monthly residential sewer rates," and a primary socioeconomic indicator (Table 1), and "property tax collection rate in the municipality," a secondary socioeconomic indicator;
- (2) The Affordability Prescreening Tool developed by the Department for compiling and analyzing socioeconomic data available from national, regional and local databases, including statistics

from the U.S. Census Bureau; an example of data being “monthly median household income” (Table 1) and “percentage of households at or below poverty” (Table 1);

- (3) A CAPDETWORKS Model developed by Hydromantis Environmental Software Solutions, Inc. for estimating the capital costs and operating and maintenance costs for different wastewater treatment technologies for compliance of upgrades so as to calculate the “projected monthly residential sewer rate” (Table 1);
- (4) The Missouri Rural Population Sustainability Assessment Tool developed by the Environmental Finance Center at Wichita State University for assessing the potential of growth and sustainability of each rural community.

Once the draft NPDES permit is completed, the permit holder is given the opportunity to review and comment on the draft permit and the CAFCom during the 10-day preview and 30-day public notice period. These review and comment periods offer permit holders an opportunity to provide additional information in regard to their community’s unique financial situations before the final NPDES permit is issued. When the NPDES permit contains a Schedule of Compliance, during the 10-day preview, Department staff contact the permit holder via phone calls to ensure the permit holder has received and understood the draft permit and the CAFCom.